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ORIGINAL ARTICLE

The Self-Perceived Health-Care Needs of Patients with Bipolar Disorder in Nigeria

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Abstract Few studies have examined the health-care needs of patients with bipolar disorder. The aim of this study was to comprehensively assess the clinical and social needs of patients with bipolar disorder in Nigeria and to study the demographic and clinical correlates of such needs. This was a cross-sectional study. Consecutive and consenting out-patients with bipolar disorder (n = 100), were assessed with the Camberwell Assessment of Needs-Short Appraisal Schedule, the Interpersonal Support Evaluation List-Shortened Version (ISEL-12), the World Health Organization Quality of life-BREF and the Young Mania Rating Scale (YMRS). The most frequently rated areas of total needs as well as unmet needs were in the domain of sexual expression, intimate relationships and the need for company. The mean number of total needs per participant was 10.70 while the median number of unmet needs was 1.50. The total number of unmet needs was significantly higher for unremitted participants compared to remitted participants. The total number of unmet needs was positively correlated with the severity of manic symptoms (YMRS score) and negatively correlated with the level of social relationships (social domain of WHOQOL), functioning (Global Assessment of Functioning (GAF) score) and social support (Tangible Support subscale of the ISEL). The GAF score and YMRS score significantly predicted unmet needs. The study underscores the importance of assessing the needs of patients with bipolar disorder in Nigeria.

Keywords Bipolar disorder · Camberwell Assessment of Needs-Short Appraisal Schedule (CANSAS) · Needs · Outcome · Nigeria

Introduction

Several outcome measures have been studied in people with psychiatric disorders. Such outcome measures include the compliance with medications, service satisfaction, reduction of hospital admissions, costs of illness, quality of life and impact on the caregivers [1]. Unfortunately, only a few of such measures have attributes that assess psychosocial outcome and recovery [2]. Elicitation of health-care needs in patients with mental illness is a comprehensive assessment of both the psychosocial outcome and recovery from the disorder [3, 4]. Assessment of needs is a measure of the difference between the ideal and the present state of affairs in the clinical, social and personal functioning of an individual for which there is an effective intervention that could reduce this gap. Unmet needs in such assessments are increasingly

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becoming reliable predictors of outcomes among patients with severe mental illness [3, 5–8]. Such assessments are necessary for the planning of services and social welfare. They are also essential for the rehabilitation of patients with mental illness.

Existing studies indicate a strong inverse relationship between the number of unmet needs and the quality of life of patients with Serious Mental Illness (SMI) [9–18]. Higher levels of unmet needs are positively correlated with higher severity of psychiatric morbidity [8, 19] and mortality [20]. Needs, especially when unmet, have been found to be important targets for treatment processes, rehabilitation, monitoring, recovery and in clinical research [21].

Within the context of psychiatric disorders, patients with bipolar disorder tend to have a lower number of needs compared to patients with dementia or schizophrenia but have a higher number of needs when compared with patients with depressive disorders [3, 22, 23]. Psychiatric inpatients, also, report more needs than outpatients [22].

Even when bipolar patients are clinically adjudged to be in remission, residual symptoms persist in a high proportion [24–26]. Such patients experience psychosocial and occupational problems [27, 28], problems with intimate relationships, marital problems [29–31] and substance-related problems [32–34]. Many of such problems come with attendant needs. Unmet needs persist through all phases of bipolar disorder treatment, [35] and when assessed, they serve as a comprehensive index of the psychosocial outcome of the treatment of the disorder [3].

The needs of patients with bipolar disorder have not been adequately studied till date [3, 21, 22, 36, 37] Most studies on needs have been conducted on patients with schizophrenia, with few on bipolar disorder, dementia and other psychiatric disorders [3, 6–8, 22, 23, 37–41]. The few studies on the needs of patients with bipolar disorder show that needs vary with the resource setting (low or high), geographical location and sociocultural context. For example, a study from the Netherlands showed that the needs mainly revolve around the domains of psychological help, psychiatric help and social functioning [21] while a study from India showed that economic needs, welfare needs, informational needs, social needs and the need for treatment were the predominant areas of need [3].

Among patients with bipolar disorder, the mean number of needs ranges from 4.3 to 7.6 [3, 22, 23, 37] while unmet needs are between 0.8 and 2.1 [3, 37].

Few studies from low-resource settings have undertaken comprehensive assessments of health-care needs of patients with psychiatric disorders [3]. In Nigeria, we are not aware of any study that has comprehensively assessed the health care and social needs of people with any SMI. Furthermore, because of differences in health care systems, cultural, social, economic and physical environments in which people live, reports on needs in one setting cannot be generalized to other settings [4, 22, 42]. Accordingly, the aim of this study was to comprehensively assess the clinical and social patient-rated needs of the patients with bipolar disorder in Nigeria and to study the demographic and clinical correlates of such needs.

Methodology

Participants

This cross-sectional study included participants diagnosed with bipolar disorder. Participants were assessed with the CANSAS, the YMRS and a sociodemographic instrument. This report is part of a larger study, the Bipolar-schizophrenia (BAS) study [43]. The study was conducted at the University College Hospital, Ibadan and the General Hospital, Adeoyo, Ibadan, Nigeria. All consecutive participants during recruitment who met the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR) criteria for bipolar disorder aged 18–64 years, who were stable and consented to participate were recruited into the study. The Structured Clinical Interview for DSM-IV (SCID) [44] was used to confirm the diagnosis of bipolar disorder. All participants were on medication.

Needs

Needs were assessed using the CANSAS [45–47]. This is a modified version of the Camberwell Assessment of Needs [45]. It is a tool for assessing the needs of people suffering from SMIs. It consists of clinical and social needs divided into 22 areas. The CANSAS has been used in a number of African settings [38, 48]. Assessments can be made from the viewpoints of the

participant, health professionals (doctors and nurses) and caregivers or participant's relatives. Item-22 on the CANSAS (benefits) was not relevant to Nigeria (people do not receive benefits) therefore; it was excluded from the current study. The version of CANSAS adapted for the current study thus contained 21 items. In our study, met needs were coded "1", unmet needs were coded "2", while no needs were coded "0". An unmet need meant the need existed but was not met. A met need meant the need existed and was met. No need meant there was no serious problem in that area. The total number of needs was obtained by adding the number of unmet needs and met needs.

Social Support

Perceived social support was assessed with the Interpersonal Support Evaluation List shortened version (ISEL-12). This is a shortened version of the original ISEL [49]. The instrument contains 12 items. The 12 items were grouped into 3 subscales. The subscales were designed to measure the dimensions of perceived social support. The subscales included the Appraisal Support subscale, the Belonging Support subscale and the Tangible Support subscale. For each of the 12 items, options for each item ranged from "definitely false" to "definitely true". These items were scored on a Likert scale of 1–4. Therefore, each subscale had a total score of between 4 and 16. Higher scores indicated a better availability of social support. The appraisal subscale measures the perceived availability of someone with whom one can confide. The tangible subscale assesses the availability of material assistance, while the belonging subscale measures the perceived availability of people to do things with.

Other Measures

We used the YMRS to assess the severity of mania in the participants [50]. We applied the GAF Scale to assess functioning [51]. The quality of life of the participants was assessed with the WHO Quality of life-BREF (WHOQOL-BREF). Detailed descriptions of the BAS Study methods have been published elsewhere [43].

Data Analysis

For continuous variables, means and standard deviations were calculated. For categorical variables, proportions and frequency counts were computed. The Chi-square test was used to assess differences in distribution between the groups for categorical variables. The Two-sample *T* test or Mann–Whitney U test was applied to test differences in sum scores of two independent groups as appropriate.

We evaluated the association between the degree of unmet needs and other clinical variables by computing the Pearson Correlation Coefficients (PCC). Computing many correlations increases the risk of a type I error. To avoid this, the level of statistical significance of the correlation coefficient was adjusted using the Bonferroni Correction [52]. To determine if any of the 10 correlations were statistically significant, the p value was set at $p < 0.005$. All variables that significantly correlated with unmet needs were analyzed subsequently using a multiple linear regression (using Enter Method) to evaluate their independent contributions to the magnitude of unmet needs.

All statistical analyses were conducted using IBM SPSS Statistics for Windows version 22 [53]. A p value < 0.05 was considered to show statistical significance.

Ethics Statement

The survey was approved by the Oyo State Research Ethical Review Committee (ref AD 13/479/688).

Results

Socio-demographic Characteristics

The sociodemographic and clinical characteristics of the participants are summarized in Table 1. A total of 100 participants with bipolar disorder were recruited into the study and were included in the current analysis. The mean age of the participants was 39.7 years (SD = 10.7). The mean age at onset of illness was 25.7 years (SD = 8.3). The majority of the participants were female (64.0%), were more likely to be married or cohabiting and were in paid employment (Table 1).

Table 1 Sociodemographic and clinical variables

Variables	Mean (SD)
Age in years	39.7 (10.7)
Age at first episode in years	25.7 (8.3)
Number of previous episodes[##]	4.5 (2.7)
Average length of episode in months	Median = 1 month
	Range = 0–12 months
Average time between episodes in years	2.9 (2.5)
Number of years of education in years	13.7(3.7)
	Number (n)
Gender	
Female	64
Male	36
Age group categories	
18–24	5
25–34	30
35–44	34
45–54	24
≥ 54	7
Total	100
Age of onset in categories	
10–19	22
20–29	51
30–39	20
≥ 40	5
Total	98[#]
Employment status	
Paid employment	68
Non-paid employment/students	12
Retired	5
Unemployed	15
Total	100
Marital status	
Single/never married	34
Married/cohabiting	50
Divorced/separated/widowed	16
Total	100
Religion	
Christianity	73
Islam	27
Total	100
Highest level of education	
No formal education	2
Primary school education	7
Secondary school education	26
Post secondary/tertiary education	65
Total	100
Family history of mental illness	
Yes	38
No	62
Total	100
Needs (CANSAS*)	Mean
Total number of met needs	7.95 (5.64)
Total number of unmet needs	Median = 1.5
	Range = 0–15
Total number of needs (i.e. Met + Unmet)	10.7 (6.1)
Social support (ISEL**)	
Appraisal support subscale	12.5 (2.4)
Belonging support subscale	12.1 (3.2)
Tangible support subscale	12.7 (2.7)
Young Mania Rating Scale	Median = 2
	Range = 0–31

*CANSAS Camberwell Assessment of Needs Short Appraisal Schedule

**ISEL Interpersonal Support Evaluation List (Shortened Version)

[#]2 missing

[##]Manic and Major Depressive episodes

Social Support

The magnitude of perceived social support in the three subscales of the ISEL is summarized in Table 1. The results show that the participants had a high level of social support in all the three subscales (Appraisal Support subscale, Belonging Support subscale and Tangible Support subscale) (Table 1).

Unmet Needs Across 21 Domains of Life

The degree of unmet needs across the 21 domains of life as rated by the participants is described in Table 2. The mean total number of needs (Met + Unmet) was 10.70 (SD = 6.10) however, most of these were met needs 7.95(SD = 5.64). More than 70% of the total needs were perceived as met. The median number of unmet needs was 1.50 (Range 0–15). The domains most frequently rated as unmet were sexual expression (41.8%), intimate relationships (37.8%), company (22.4%) and basic education (20.4%).

Table 2 Needs based on CANSAS

Domains	No Need		Met needs		Unmet needs		All needs	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Accommodation	36	36.7	46	46.9	16	16.3	62	63.2
Food	49	50	43	43.9	6	6.1	49	50.0
Household skills	40	40.8	48	49	10	10.2	58	59.2
Self-care	42	42.9	47	48	9	9.2	56	57.2
Daytime activities	38	38.8	51	52	9	9.2	60	61.2
Physical health	36	36.7	56	57.1	6	6.1	62	63.2
Psychotic symptoms	43	43.9	43	43.9	12	12.2	55	56.1
Information about condition and treatment	43	43.9	48	49	7	7.1	55	56.1
Psychological distress	46	46.9	44	44.9	8	8.2	52	53.1
Safety to self	60	61.2	35	35.7	3	3.1	38	38.8
Safety to others	68	69.4	27	27.6	3	3.1	30	30.7
Alcohol	91	92.9	7	7.1	–	–	7	7.14
Drugs	92	93.9	4	4.1	2	2	6	6.1
Company	38	38.8	38	38.8	22	22.4	60	61.2
Intimate relationships	26	26.5	35	35.7	37	37.8	72	73.5
Sexual expression	24	24.5	33	33.7	41	41.8	74	75.5
Child care	44	44.9	35	35.7	19	19.4	54	55.1
Basic education	48	49	30	30.6	20	20.4	50	51
Telephone	44	44.9	40	40.8	14	14.3	54	55.1
Transport	44	44.9	45	45.9	9	9.2	54	55.1
Money	40	40.8	40	40.8	18	18.4	58	59.2

A Mann–Whitney U test indicated that the total number of unmet needs was significantly higher for unremitted participants (Median = 3.00) than for remitted participants (Median = 0.00, U = 601.5 $p = < 0.001$, r = − 0.40.) A Mann–Whitney U test indicated that there was not a significant difference between women (Median = 1.50) and men (Median = 1.50, U = 1124.5, $p = 0.84$, r = − 0.014) regarding unmet needs.

Correlates and Determinants of Unmet Needs

Pearson correlation showed that the total number of unmet needs was positively correlated with the severity of manic symptoms (YMRS total score) and negatively correlated with the social relationships domain of the WHOQOL, functioning (GAF Score) and the Tangible Support subscale of the ISEL Table 3.

Table 3 Correlational analysis between to Unmet needs and clinical characteristics of participants

Characteristics	Correlation (R)	*p* value
WHO quality of life		
Physical domain	− 0.099	0.351
Psychological domain	− 0.203	0.055
Social relationships domain	− 0.406**	< 0.0001
Environment domain	− 0.173	0.102
YMRS_Total	0.403**	< 0.0001
GAF Score	− 0.291**	0.003
Number of years of education	− 0.270**	0.007
Social support		
Appraisal support subscale	− 0.164	0.203
Belonging support subscale	− 0.276	0.03
Tangible support subscale	− 0.390**	0.002

**Significant after Bonferroni correction for multiple comparison (p value < 0.005)

A multiple regression analysis was performed to predict unmet needs from the social relationships domain of the WHOQOL, YMRS total score, GAF score, number of years of education and the Tangible Support subscale of the ISEL. The GAF score and YMRS score significantly predicted unmet needs, $F(5, 50) = 7.114$, $p < 0.0005$, $R^2 = 0.416$ (Table 4).

Thus the regression equation for predicting unmet needs was:

$$\text{Predicted Unmet needs} = 9.33 - (0.03 \times \text{WHOQOL Domain 3}) + (\text{YMRS total score} \times 0.17)$$

Discussion

We found that the most frequently rated areas of total needs as well as unmet needs were in the domains of sexual expression, intimate relationships and the need for company. The mean number of needs per participant was 10.70, while the median number of unmet needs was 1.50. The total number of unmet needs was significantly higher for unremitted participants compared to remitted participants. Additionally, the study indicated that the total number of unmet needs was positively correlated the with YMRS total score and negatively correlated with the social relationships domain of the WHOQOL, the GAF score and the Tangible support subscale of the ISEL. The GAF score and the YMRS score significantly predicted unmet needs.

Distribution and Pattern of Needs

In contrast to studies from the Netherlands [21] and India [3], the most rated areas of needs and unmet needs in the current study were in the areas of sexual expression, intimate relationships and the need for company. In the Netherlands, the needs were mainly for psychological help, psychiatric help and social functioning, while unmet needs were mainly for social functioning. The study from India revealed that the most common areas of needs (both total needs and unmet needs) were mainly for welfare benefits and Information about bipolar disorder. These different pictures probably reflect the economic and sociocultural diversity of the three countries, Nigeria (Africa), the Netherlands (Europe) and India (Asia). The results from our study, however, underscore the necessity to assess the needs of bipolar patients in our environment, with special attention to sexual expression, intimate relationships and the need for company.

The mean total number of needs was 10.70. Of these, over 70% were met. This finding is in keeping with previous studies on SMIs [39]. This is also a positive development since the well-being and quality of life of such patients have been shown to be better when needs are perceived as met [3, 41].

The mean total number of needs of 10.70 was high when compared to the 4.30–7.54 reported in existing studies on patients with bipolar disorder [3, 22, 23, 37]. It was also higher than the reports of total needs by patients with schizophrenia (5.36) [10, 23, 54]. The median of 1.50 for unmet needs

Table 4 Multiple linear regression analysis of factors predicting unmet needs

Characteristic	B	SE	Beta	t	*p*
(Constant)	9.327	2.584		3.61	0.001
WHOQOL* (Social relationships domain)	− 0.03	0.015	− 0.257	− 0.035	0.047
YMRS[@] total score	0.165	0.046	0.395	3.592	0.001
GAF[#] Score	− 0.046	0.027	− 0.204	− 0.689	0.097
Number of years of education	− 0.086	0.09	− 0.106	− 0.953	0.345
Tangible support subscale of ISEL**	− 0.169	0.136	− 0.143	− 1.241	0.22

*WHOQOL = The World Health Organization Quality of Life

[@]YMRS = Young Mania Rating Scale total score

[#]GAF = Global Assessment of Functioning

**ISEL = Interpersonal Support Evaluation List

found in the current study is however in keeping with an average of 0.80–2.10 [3, 37] found in existing studies in patients with bipolar disorder. The frequency of unmet needs is related to the system of mental health care and to the socioeconomic circumstances in a country. The more integrated and complete mental health care is in a country, the less the unmet needs [55]. Nigeria ranks 152 out of 188 in the list of countries by Human Development Index (HDI) (an index to classify a country as developed, developing or underdeveloped) [56]. The level of unmet needs found in the current study is a reflection of the level of development of the health care system, infrastructure and socioeconomic situation in Nigeria. This underscores the need to improve access to quality health care, education, food, amenities and other basic social services. This should in turn, improve the outcome of patients with bipolar disorder.

Our observation that over 90% of the participants had no need in the area of drugs and alcohol is probably a pointer to the fact that substance or alcohol use problem may not be an issue for patients with bipolar disorder in this environment. This is in keeping with reports that Nigeria can be described as a relatively "dry" culture, where drinking is commonly set apart from daily life to weekends, holidays and celebrations and with many of the populace being abstainers [57, 58]. The prevalence of drug and substance use has also been reported to be low in Nigeria. In a large-scale community study of the prevalence of mental disorders conducted in Nigeria, the estimated past year prevalence of drug use were tobacco (3.4%), sedatives (3.4%) and cannabis (0.4%). No participant in the study reported cocaine use in the past year [59].

Correlates of Needs

Existing studies show that the severity of bipolar symptoms has a direct relationship with the number of unmet needs (i.e. the more severe the illness, the greater the number of unmet needs). Bipolar symptoms require treatment and therefore induce needs, however, unmet needs may also induce bipolar symptoms [37]. Our results support these findings by indicating that YMRS score was directly correlated with unmet needs. Therefore, the severity of manic symptoms in patients with bipolar disorder can be used as an index of unmet needs. Our finding that functioning was inversely related to unmet needs is also in keeping with previous studies among patients with bipolar disorder [3]. Similarly, the magnitude of unmet needs can be used as an indicator of the overall psychosocial functioning in patients with bipolar disorder.

The Tangible Support subscale of ISEL was negatively correlated with unmet needs. This item measures the perceived availability of material assistance such as money, clothing, equipment, and housing. A plausible explanation for this finding is that higher levels of negative perceptions about mental illnesses are associated with higher ratings of unmet needs by patients [60]. The public perception of this group of patients as dangerous or as "nuisances" means that they are afforded lesser opportunities such as jobs, housing and access to other social facilities [61, 62]. Fostering a change in the attitude of the public towards people with bipolar disorder and by extension, other mental disorders, through awareness campaigns and information dissemination, can reduce the degree of unmet needs related to social support among these people.

The total number of unmet needs was positively correlated with illness severity (YMRS total score) and negatively correlated with the social relationships domain of WHOQOL and (functioning) GAF Score. This finding suggests that efforts aimed at treatment of patients with bipolar disorder may result in better quality of life, better functioning and fewer unmet needs.

The result of the multivariable linear regression indicated that GAF score and YMRS score were independent predictors of unmet needs. This is in keeping with existing studies showing that higher levels of functioning and lower severity of illness are associated with decreased number of unmet needs [3, 39, 60]. It is likely that the health care needs of many patients with bipolar disorder go unnoticed because administering a relatively lengthy instrument such as the CANSAS in a busy psychiatric clinic may not be feasible. Consequently, many of such needs may remain unmet. Being able to predict unmet needs using the GAF and YMRS scores can therefore, be of great value in estimating and meeting these needs.

Limitations of the Study

First, this was a hospital-based study. It included only participants who were attending a mental health service. Consequently, this hinders the generalization of its results to patients in the community. Second, the input provided by relatives and medical staff is vital for a comprehensive assessment and management of needs, in patients with severe mental illnesses [3, 23, 39]. We did not assess the care needs from relatives' perspective because it was outside the scope of our study objectives.

These methodological gaps notwithstanding, some of the findings of the current study may be of novel significance. The paper has presented the main needs of patients with bipolar disorder in Nigeria and studied its relationship to severity of illness, social support, functioning and quality of life. We suggest that in patients with bipolar disorder, clinical assessment should be complemented by a needs assessment. Also, mental health professionals and other members of the mental health multidisciplinary team should routinely assess and attempt to cater to the unmet needs. They should also attempt to improve patients' social support, this will improve functioning as well as the quality of life of such patients.

In future studies, concerted efforts should be made to overcome the limitations highlighted above. Evidently more studies are needed in this area, especially in sub-Saharan Africa, using a longitudinal design and larger sample sizes. Such studies should also lay emphasis on the relationships between needs, the severity of psychopathology and recovery. Interventional studies addressing the needs of bipolar patients are also warranted.

Implications for Behavioral Health

This study demonstrated a relationship between the severity of psychopathology, social relationships, functioning and number of unmet needs. These are all important ingredients in the recovery process for bipolar patients. As social relationships and functioning are suggestive of the degree to which people are socially integrated, our findings have important implications for behavioural health and management of patients with bipolar disorder in the community. Preventing relapses in bipolar patients require an approach that goes beyond the short-term management of symptoms. It should address unmet needs and enhance the appropriate planning of services for such patients. Addressing such unmet needs will also reduce family or caregiver involvement in the management of patients with bipolar disorder in Nigeria. This will reduce caregiver exhaustion and the stress experienced by caregivers who usually bear the burden of care in managing patients with bipolar disorder in Nigeria [41].

Author Contributions Oluyomi Esan: Conception, design, acquisition of data, analysis of data; drafting the article, revising it critically for important intellectual content. Adeyinka Medubi: Conception, design; drafting the article, revising it critically for important intellectual content.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Availability of Data and Materials Raw data and complete patient documentation are available from the author Oluyomi Esan (e-mail oluyomie@yahoo.com) upon request.

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